

## Water-Data Report 2008

**352512079494501 Local number MG-030, Piedmont Major Aquifer Study Site 50, near Star, NC**

 Piedmont and Blue Ridge crystalline-rock aquifers  
 Epiclastic Metavolcanic Rock

Montgomery County, NC

LOCATION.--Lat 35°25'12", long 79°49'45" referenced to North American Datum of 1983, Montgomery County, NC, Hydrologic Unit 03040104, .35 mi east of Secondary Road 1340, 2.9 mi west of Star.

**WATER-QUALITY RECORDS**

WELL CHARACTERISTICS.--Depth 245 ft. Upper casing diameter 6 in; top of first opening 83 ft, bottom of last opening 245 ft.

PERIOD OF RECORD.--November 2007.

REMARKS.--Well is part of the National Water Quality Assessment Program (NAWQA).

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 1 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Time	Sample medium and type	Depth to water level, feet below LSD	Water level, depth below MP, feet	Barometric pressure, mm Hg	Dissolved oxygen, mg/L	Dissolved oxygen, percent of saturation	pH, water, unfltrd field, std units	Specifc conductance, wat unf µS/cm	Specifc conductance, 25 degC
			(72019)	(61055)	(00025)	(00300)	(00301)	(00400)		
<b>Nov</b>										
14...	1445	Ground water, replicate	64.15	65.05	748	7.7	79	6.5	93	
14...	1446	QC - Ground water, replicate	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 2 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, mg/L (00915)	Magnesium water, mg/L (00925)	Potassium water, mg/L (00935)	Sodium, water, mg/L (00930)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., mg/L (00453)	Chloride, Bromide water, mg/L (71870) (00940)	Fluoride, water, mg/L (00950)	Silica, water, mg/L as SiO2 (00955)	Sulfate water, mg/L (00945)
<b>Nov</b>												
14...	16.0	40	13.2	1.69	.16	7.22	46	57	<.02	1.78	<.12	26.9
14...	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 3 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Residue on evap. 180degC wat flt	Ammonia water, mg/L (70300)	Nitrate + nitrite water fltrd, mg/L (00608)	Total nitro- gen, water, wat flt	Ortho- phos- phate, water, by anal ysis, mg/L (00613)	Colipge F-spec, Organic carbon, water, fltrd, mg/L (62854)	Colipge CN13hst 2-step, pres or absence	Colipge Ec 2-step, pres or absence	Total col- form, MI MF, water, col/ 100 mL	Total col- form, MI MF, water, col/ 100 mL	Alum- inum, water, fltrd, μg/L (01106)	Anti- mony, water, fltrd, μg/L (01095)	
Nov													
14...	87	<.020	<.04	<.002	<.06	.093	E.4	U	U	<1	<1	E.8	.26
14...	--	--	--	--	--	--	--	--	--	<1	<1	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 4 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Arsenic water, fltrd, μg/L (01000)	Barium, water, fltrd, μg/L (01005)	Beryll- ium, water, fltrd, μg/L (01010)	Boron, water, fltrd, μg/L (01020)	Cadmium water, fltrd, μg/L (01025)	Chrom- ium, water, fltrd, μg/L (01030)	Cobalt water, fltrd, μg/L (01035)	Copper, water, fltrd, μg/L (01040)	Hydro- gen sulfide water, unfltrd mg/L (71875)	Iron, water, fltrd, μg/L (01046)	Lead, water, fltrd, μg/L (01049)	Lithium water, fltrd, μg/L (01130)	Mangan- ese, water, fltrd, μg/L (01056)
Nov													
14...	.24	1	<.01	E4	<.04	<.12	E.01	2.5	U	<8	.15	3.1	.8
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 5 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Molyb- denum, water, fltrd, μg/L (01060)	Nickel, water, fltrd, μg/L (01065)	Selen- ium, water, fltrd, μg/L (01145)	Silver, water, fltrd, μg/L (01075)	Stront- ium, water, fltrd, μg/L (01080)	Thall- ium, water, fltrd, μg/L (01057)	Vana- dium, water, fltrd, μg/L (01085)	Zinc, water, fltrd, μg/L (01090)	1-Naph- thol, water, fltrd, μg/L (49295)	2,6-Di- ethyl- aniline water, fltrd, μg/L (82660)	2-Chloro- -2',6'- diethyl acet- anilide water, wat flt μg/L (61618)	2-Ethy- -6- methyl- aniline water, fltrd, μg/L (04040)	CIAT, water, fltrd, μg/L (61620)
Nov													
14...	2.1	<.20	.56	<.1	34.3	<.04	.36	6.9	<.04	<.006	<.010	<.014	<.010
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 6 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	3,4-Dichloroaniline water, filtd, µg/L (61625)	3,5-Dichloroaniline water, filtd, µg/L (61627)	2methylphenol, water, filtd, µg/L (61633)	Acetochlor, water, filtd, µg/L (49260)	Alachlor, water, filtd, µg/L (46342)	Endosulfan, water, filtd, µg/L (34362)	Atrazine, water, filtd, µg/L (39632)	Azinophos-methoxon, water, filtd, µg/L (61635)	Azinophos-methylwater, filtd, 0.7u GF (82686)	Benzofuran, water, filtd, µg/L (82673)	Carbaryl, water, filtd, µg/L (82680)	Carboxylic acid, water, filtd, µg/L (82674)	Chloropyrifos oxon, water, filtd, µg/L (61636)
Nov													
14...	<.006	<.008	<.005	<.006	<.006	<.006	<.007	<.04	<.120	<.004	<.060	<.020	<.06
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 7 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	cis-Chlorpyrifos water, filtd, µg/L (38933)	cis-Permethrin water, filtd, 0.7u GF (82687)	cis-Propiconazole, water, filtd, µg/L (79846)	Cyanazine, water, filtd, µg/L (04041)	Cyfluthrin, water, filtd, µg/L (61585)	Cyhalothrin, water, filtd, µg/L (61595)	Lambda-cypermethrin, water, filtd, µg/L (61586)	DCPA, water, filtd, 0.7u GF (82682)	Desutilin-fipronil, water, filtd, µg/L (62170)	Diazinon, water, filtd, µg/L (39572)	Dicrotophos, water, filtd, µg/L (38454)	Dieldrin, water, filtd, µg/L (39381)	Dimethoate, water, filtd, 0.7u GF (82662)
Nov													
14...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	<.08	<.009	<.006
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 8 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Disulfoton sulfone water, filtd, 0.7u GF (61640)	Disulfoton foton, water, filtd, 0.7u GF (82677)	Endosulfan sulfate, water, filtd, 0.7u GF (61590)	EPTC, water, filtd, 0.7u GF (82668)	Ethion monoxon, water, filtd, µg/L (61644)	Ethion, water, filtd, µg/L (82346)	Ethoprop, water, filtd, 0.7u GF (82672)	Fenamiphos sulfone, water, filtd, µg/L (61645)	Fenamiphos sulfone oxide, water, filtd, µg/L (61646)	Fenamiphos sulfone amide, water, filtd, µg/L (61591)	Desutilin-fipronil, water, filtd, µg/L (62169)	Fipronil sulfide, water, filtd, µg/L (62167)	Fipronil sulfone, water, filtd, µg/L (62168)
Nov													
14...	<.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.04	<.03	<.029	<.013	<.024
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352512079494501 Local number MG-030, Piedmont Major Aquifer Study Site 50, near Star, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 9 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Fipro-	Fonofos	Hexa-	Ipro-	Isofen-	Mala-	Mala-	Metab-	Methyl	Methyl	Metola-	Metri-	
	nil, water, fltrd, μg/L (62166)	water, fltrd, μg/L (04095)	zinone, water, fltrd, μg/L (04025)	dione, water, fltrd, μg/L (61593)	phos, water, fltrd, μg/L (61594)	oxon, water, fltrd, μg/L (61652)	thion, water, fltrd, μg/L (39532)	laxyl, water, fltrd, μg/L (61596)	athion, water, fltrd, μg/L (61598)	para- oxon, water, fltrd, μg/L (61664)	thion, water, fltrd, μg/L (82667)	chlor, water, fltrd, μg/L (39415)	buzin, water, fltrd, μg/L (82630)
Nov													
14...	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 10 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Moli-	Oxy-	Pendi-	Phorate	Phorate	Phosmet	Phosmet	Prome-	Prome-	Propy-	Pro-	Propar-	
	nate, water, fltrd, μg/L (82671)	Myclo- butanil water, fltrd, μg/L (61599)	fluor- fen, water, fltrd, μg/L (61600)										
Nov													
14...	<.025	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006	<.04
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 11 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Tebu-	Ter-	trans-	Tri-	1,1,1,2	1,1,1-	1,1,2,2						
	Simazine, water, fltrd, μg/L (04035)	thiuron water, fltrd, μg/L (82670)	bufos sulfone water, fltrd, μg/L (61606)	terbu- floxon water, fltrd, μg/L (61674)	terbu- flos, water, fltrd, μg/L (82675)	ter- butyl- azine, water, fltrd, μg/L (04022)	thio- bencarb water, fltrd, μg/L (82681)	Propi- conazole, water, fltrd, μg/L (79847)	Tribu- phos, water, fltrd, μg/L (61610)	flu- alin, water, fltrd, μg/L (82661)	-Tetra- chloro- ethane, water, unfltrd μg/L (77562)	chloro- ethane, water, unfltrd μg/L (34506)	-Tetra- chloro- ethane, water, unfltrd μg/L (34516)
Nov													
14...	<.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.006	<.04	<.02	<.10
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352512079494501 Local number MG-030, Piedmont Major Aquifer Study Site 50, near Star, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 12 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	CFC-113 water, unfltrd	1,1,2- Tri-chloro- ethane, water, unfltrd	1,1-Di- chloro- ethane, water, unfltrd	1,1-Di- chloro- ethene, water, unfltrd	1,1-Di- chloro- propene, water, unfltrd	1,2,3,4 -Tetra- methyl- benzene	1,2,3,5 -Tetra- methyl- benzene	1,2,3- Tri-chloro- benzene	1,2,3- Tri-chloro- propane	1,2,3- Tri-methyl- benzene	1,2,4- Tri-chloro- benzene	1,2,4- Tri-methyl- benzene	Dibromo- chloropropane
	µg/L (77652)	µg/L (34511)	µg/L (34496)	µg/L (34501)	µg/L (77168)	µg/L (49999)	µg/L (50000)	µg/L (77613)	µg/L (77443)	µg/L (77221)	µg/L (34551)	µg/L (77222)	µg/L (82625)
<b>Nov</b>													
14...	<.04	<.06	<.04	<.02	<.04	<.1	<.1	<.1	<.12	<.1	<.1	<.04	<.5
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 13 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	1,2-Di- bromo- ethane, water, unfltrd	1,2-Di- chloro- benzene, water, unfltrd	1,2-Di- chloro- ethane, water, unfltrd	1,2-Di- chloro- propane, water, unfltrd	1,3,5- Tri-methyl- benzene	1,3-Di- chloro- benzene	1,3-Di- chloro- propane	1,4-Di- chloro- benzene	2,2-Di- chloro- propane	2-Chloro- toluene	2-Ethyl- toluene	3-Chloro- propene	4-Chloro- toluene
	µg/L (77651)	µg/L (34536)	µg/L (32103)	µg/L (34541)	µg/L (77226)	µg/L (34566)	µg/L (77173)	µg/L (34571)	µg/L (77170)	µg/L (77275)	µg/L (77220)	µg/L (78109)	µg/L (77277)
<b>Nov</b>													
14...	<.04	<.02	<.1	<.02	<.04	<.04	<.1	<.02	<.06	<.04	<.04	<.08	<.04
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 14 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	4-Iso- propyl- toluene water, unfltrd	Acetone water, unfltrd	Acrylo- nitrile water, unfltrd	Benzene water, unfltrd	Bromo- benzene water, unfltrd	Bromo- chloro- methane water, unfltrd	Bromo- di- chloro- methane water, unfltrd	Bromo- ethene, water, unfltrd	Bromo- methane water, unfltrd	Tri- bromo- methane water, unfltrd	Bromo- methane water, unfltrd	Carbon di- sulfide water, unfltrd	Chloro- benzene water, unfltrd	Chloro- ethane, water, unfltrd
	µg/L (77356)	µg/L (81552)	µg/L (34215)	µg/L (34030)	µg/L (81555)	µg/L (77297)	µg/L (32101)	µg/L (50002)	µg/L (32104)	µg/L (34413)	µg/L (77041)	µg/L (34301)	µg/L (34311)	
<b>Nov</b>														
14...	<.08	<4	<.4	<.02	<.02	<.06	<.04	<.1	<.08	<.4	<.06	<.02	<.1	
14...	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352512079494501 Local number MG-030, Piedmont Major Aquifer Study Site 50, near Star, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 15 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Chloro-methane water, unfltrd	cis-1,2-Dichloro-ethene, water, unfltrd	cis-1,3-Dichloro-propene, water, unfltrd	Di-bromo-chloro-methane, water, unfltrd	Di-bromo-chloro-methane, water, unfltrd	Di-chloro-fluoro-methane, wat unf	Di-chloro-methane, unfltrd	Di-ethyl ether, water, unfltrd	Diiso-propyl ether, water, unfltrd	Ethyl methacrylate, water, unfltrd	Ethyl methyl ketone, water, unfltrd	Ethyl benzene, water, unfltrd	Hexachlorobutadiene, water, unfltrd
	µg/L (34418)	µg/L (77093)	µg/L (34704)	µg/L (32105)	µg/L (30217)	µg/L (34668)	µg/L (34423)	µg/L (81576)	µg/L (81577)	µg/L (73570)	µg/L (81595)	µg/L (34371)	µg/L (39702)
Nov													
14...	<.1	<.02	<.10	<.1	<.04	<.14	<.04	<.1	<.06	<.1	<1.6	<.04	<.1
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 16 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Hexachloro-ethane, water, unfltrd	Iodo-methane, water, unfltrd	Iso-butyl ketone, water, unfltrd	Iso-propylbenzene, water, unfltrd	Methyl acrylonitrile, water, unfltrd	Methyl acrylate, water, unfltrd	Methyl methacrylate, water, unfltrd	Methyl pentyl ether, water, unfltrd	Methyl + para-Xylene, water, unfltrd	Methyl naphthalene, water, unfltrd	Methyl n-butyl ketone, water, unfltrd	n-Butyl benzene, water, unfltrd	Propylbenzene, water, unfltrd
	µg/L (34396)	µg/L (77424)	µg/L (78133)	µg/L (77223)	µg/L (81593)	µg/L (49991)	µg/L (81597)	µg/L (50005)	µg/L (85795)	µg/L (34696)	µg/L (77103)	µg/L (77342)	µg/L (77224)
Nov													
14...	<.1	<.40	<.4	<.04	<.2	<.6	<.2	<.06	<.08	<.2	<.6	<.1	<.04
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 17 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	o-Xylene, water, unfltrd	sec-Butyl-benzene, water, unfltrd	Styrene, water, unfltrd	t-Butyl ethyl ether, water, unfltrd	Methyl t-butyl ether, water, unfltrd	tert-Butylbenzene, water, unfltrd	Tetra-chloro-ethene, water, unfltrd	Tetra-chloro-methane, water, unfltrd	Tetra-hydrofuran, water, unfltrd	Toluene, water, unfltrd	trans-1,2-Dichloro-ethene, water, unfltrd	trans-1,3-Dichloro-propene, water, unfltrd	trans-1,4-Dichloro-2-butene, wat unf
	µg/L (77135)	µg/L (77350)	µg/L (77128)	µg/L (50004)	µg/L (78032)	µg/L (77353)	µg/L (34475)	µg/L (32102)	µg/L (81607)	µg/L (34010)	µg/L (34546)	µg/L (34699)	µg/L (73547)
Nov													
14...	<.04	<.04	<.04	<.04	<.1	<.06	<.04	<.08	E1	<.02	<.02	<.10	<.6
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

352512079494501 Local number MG-030, Piedmont Major Aquifer Study Site 50, near Star, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 18 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Tri-chloro-ethene, water, unfltrd	Tri-chloro-fluoro-methane	Tri-chloro-methane	Vinyl chloride, water, unfltrd	Di-chloro-vos, water, unfltrd	Gross alpha 30 day recount	Gross alpha radioac 72 hr, Th-230, pCi/L	Gross beta 30 day recount	Gross beta radioac 72 hr, Th-230, Cs-137, pCi/L	Gross beta radon method 63017, pCi/L	Ra-226, water, fltrd, Ra-228, water, fltrd, Ra-228, water, fltrd, 2-sigma	Rn-222, water, unfltrd, pCi/L	Rn-222, water, unfltrd, pCi/L
	µg/L (39180)	µg/L (34488)	µg/L (32106)	µg/L (39175)	µg/L (38775)	(63016)	(63014)	(63017)	(63015)	(09511)	(81366)	(76002)	(82303)
<b>Nov</b>													
<b>14...</b>	<.02	<.08	.13	<.1	<.01	R.8	R.4	R.3	R-.1	.036	R-.21	39	1,890
<b>14...</b>	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO**  
**SEPTEMBER 2008**

Part 19 of 19

[QC, quality control sample. Remark codes:  
 <, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not  
 detected.]

Date	Uranium natural water, fltrd, µg/L (22703)	Data base number	Medium code
<b>Nov</b>			
<b>14...</b>	.34	01	WG
<b>14...</b>	--	04	WGQ